

595022

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
29 December 2004 (29.12.2004)

PCT

(10) International Publication Number
WO 2004/113163 A2

(51) International Patent Classification⁷:

B64B

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(21) International Application Number:

PCT/KR2004/001486

(22) International Filing Date: 21 June 2004 (21.06.2004)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
10-2003-0040449 21 June 2003 (21.06.2003) KR

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicants and

(72) Inventors: LEE, Chang Yeal [KR/KR]; 189-326 Wonmi2-Dong, Wonmi-Gu, Bucheon, Gyunggi 420-840 (KR). SONG, Nam Kwon [KR/KR]; B-203 Cellra Village, 418-7 Gogangbon-Dong, Ojung-Gu, Bucheon, Gyunggi 421-802 (KR).

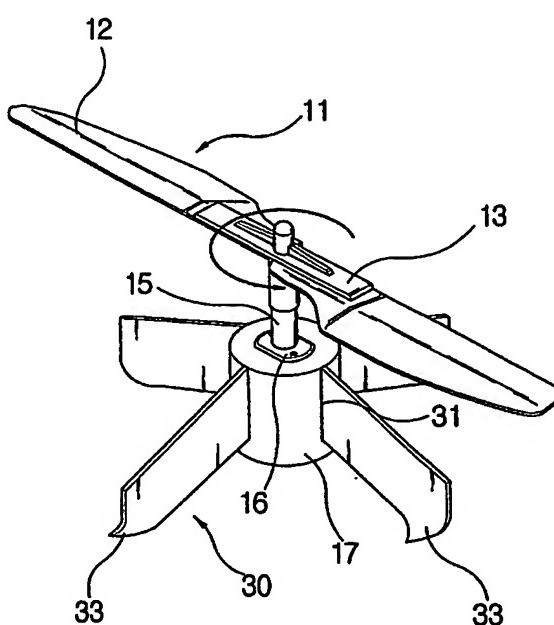
(74) Agent: PARK, Sung Min; Suite 2010 Sungji Heights No.1, 702-13 Yoksam-Dong, Gangnam-Gu, Seoul 135-917 (KR).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MICRO AERIAL VEHICLE



(57) Abstract: The purpose of this invention is to provide an ultra-miniature aircraft which is able to perform 'Vertical Take-off and Landing (VTOL)' and maintaining altitude when the vehicle is moving or when the horizontal velocity of a vehicle is at 0 by getting life only from a single rotor's rotation, and without using separate stabilizers such as a tail-rotor or a gyro. To fulfill the above purpose, this invention comprises: several blades in airfoil shape that are placed in calculated angle and space; hubs that connect the blade to with a body of a vehicle; a rotor which gives lifting force with its spin; a spin-able axle which its vertical hem is bound to the hubs; a rotor drive that is needed to spin the rotor; a vehicle body that is placed right under the rotor in order to fly from the lift that is obtained by revolutions of the rotor; fixed-wings that are placed in certain angle and space around the outside of the vehicle body in order to reduce a reaction torque, which affects the body to turn the opposite direction of the rotor, from the rotor's movement; and a reaction-torque-counter-balancing-system on each of the above fixed-wings that offsets the reaction torque aggressively.

WO 2004/113163 A2